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Morris

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(54) **VERTICAL MOVEMENT VIBRATING EXERCISE AND WELLNESS PLATFORM**

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(60) Provisional application No. 61/395,847, filed on May 17, 2010.

(51) **Int. Cl.**

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A63B 7/00	(2006.01)
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A63B 21/062	(2006.01)
A63B 23/035	(2006.01)
F01B 7/02	(2006.01)
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F02B 75/28	(2006.01)
G06F 1/16	(2006.01)
A63B 21/00	(2006.01)
A63B 71/00	(2006.01)

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CPC ***A63B 24/0062*** (2013.01); ***A63B 7/00*** (2013.01); ***A63B 21/00069*** (2013.01); ***A63B 21/015*** (2013.01); ***A63B 21/062*** (2013.01); ***A63B 21/14*** (2013.01); ***A63B 21/1484*** (2013.01); ***A63B 21/40*** (2015.10); ***A63B 21/4034*** (2015.10); ***A63B 21/4043*** (2015.10); ***A63B 23/0355*** (2013.01); ***F01B 7/02*** (2013.01); ***F02B 23/0645*** (2013.01); ***F02B 75/28*** (2013.01); ***G06F 1/1626*** (2013.01); *A63B 21/1469* (2013.01); *A63B 21/4035* (2015.10); *A63B 71/0054* (2013.01); *A63B 2220/17* (2013.01); *A63B 2225/20* (2013.01); *A63B 2225/50* (2013.01); *A63B 2230/06* (2013.01)

(58) **Field of Classification Search**

CPC A63B 21/00
USPC 482/141; 601/131, 23, 29, 49
See application file for complete search history.

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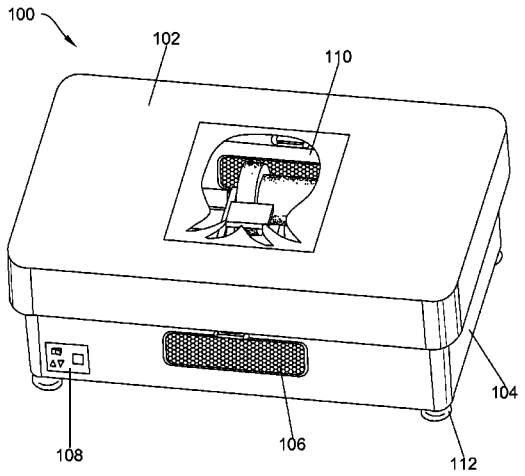
(57) **ABSTRACT**

A system for allowing a user to exercise. The system includes a platform, where the platform is configured to support a user during an exercise routine. The system also includes vibration means, where the vibration means moves the platform up and down during the exercise routine.

19 Claims, 5 Drawing Sheets



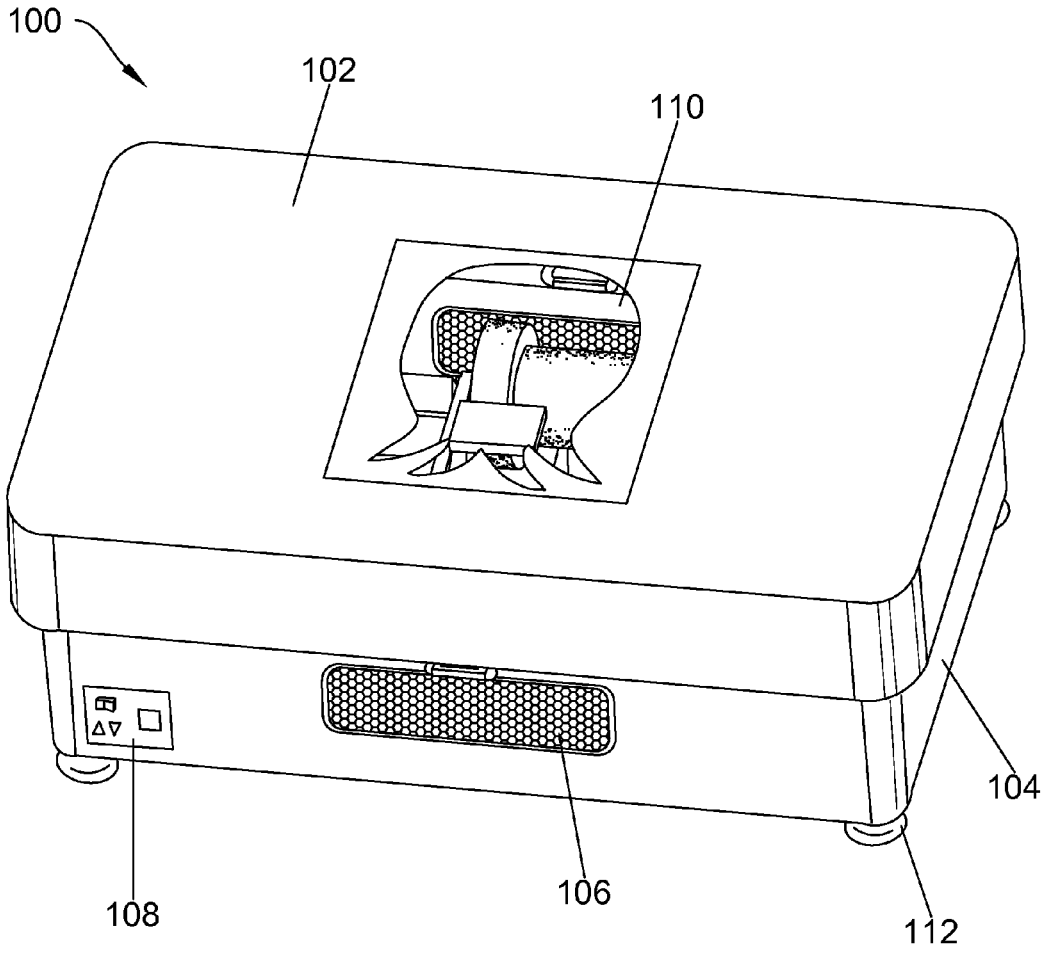


FIG. 1

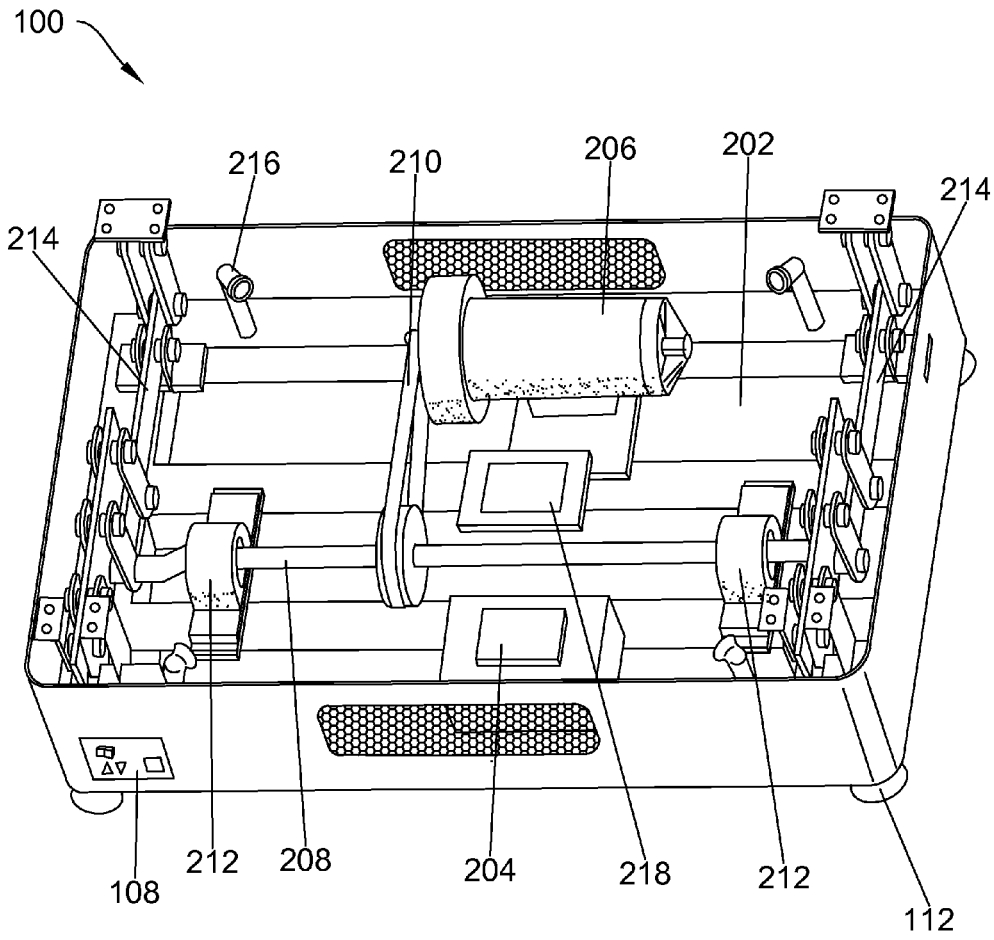


FIG. 2

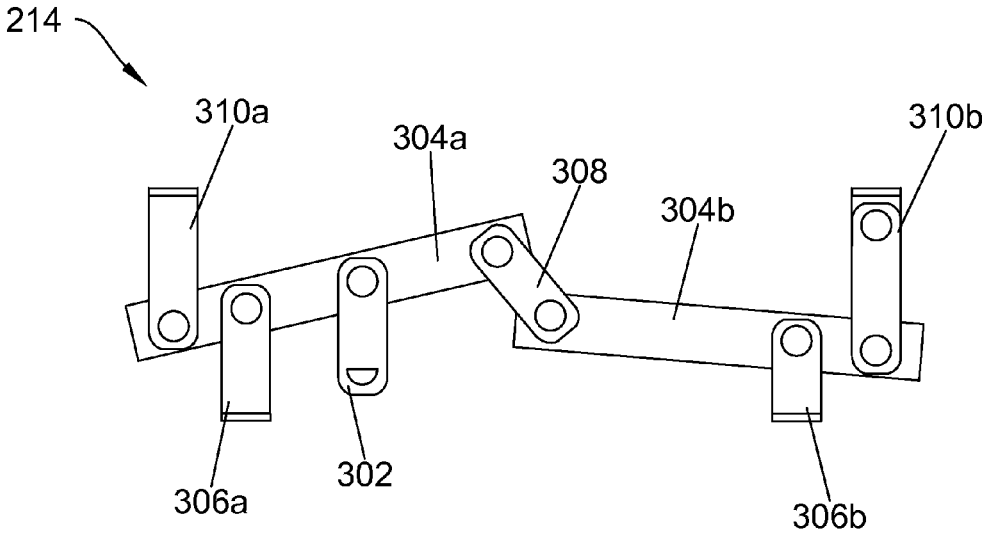

214
310a
304a
308
304b
310b
306a
302
306b

FIG. 3A

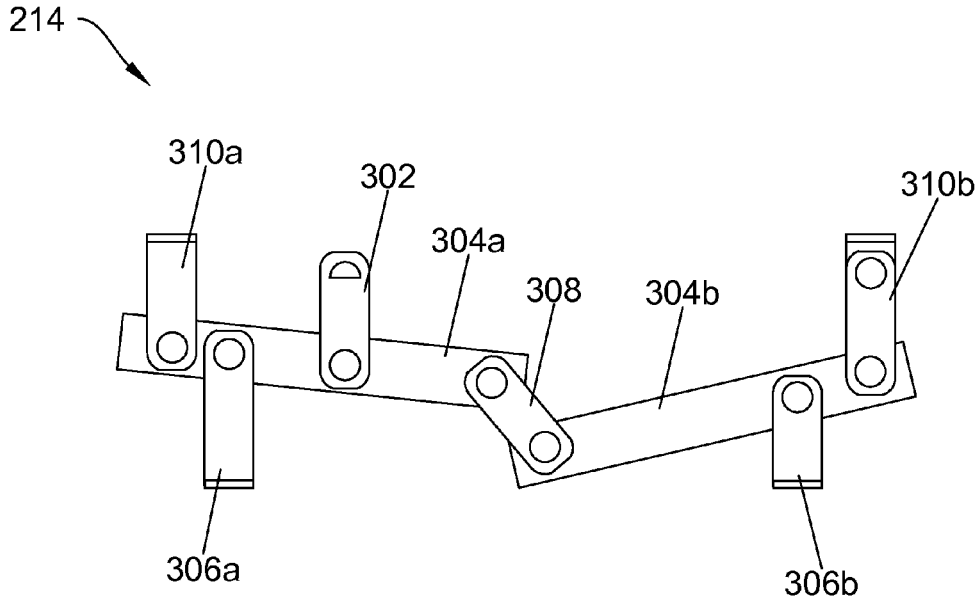

214
310a
302
304a
308
304b
310b
306a
306b

FIG. 3B

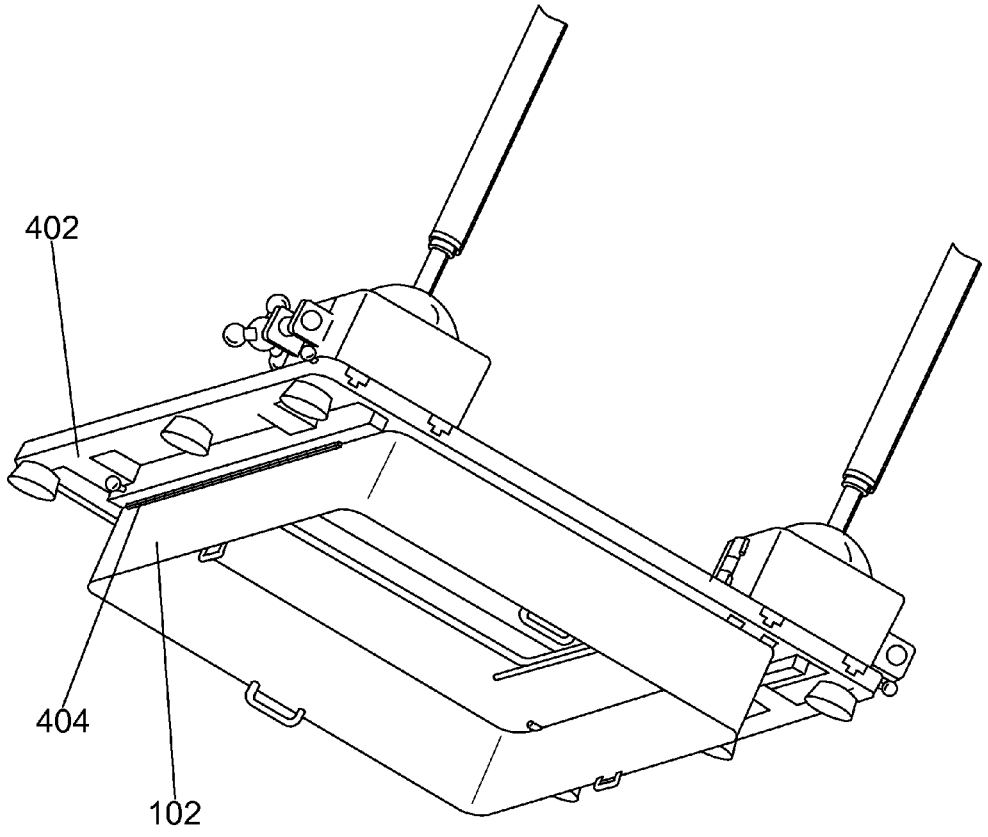


FIG. 4

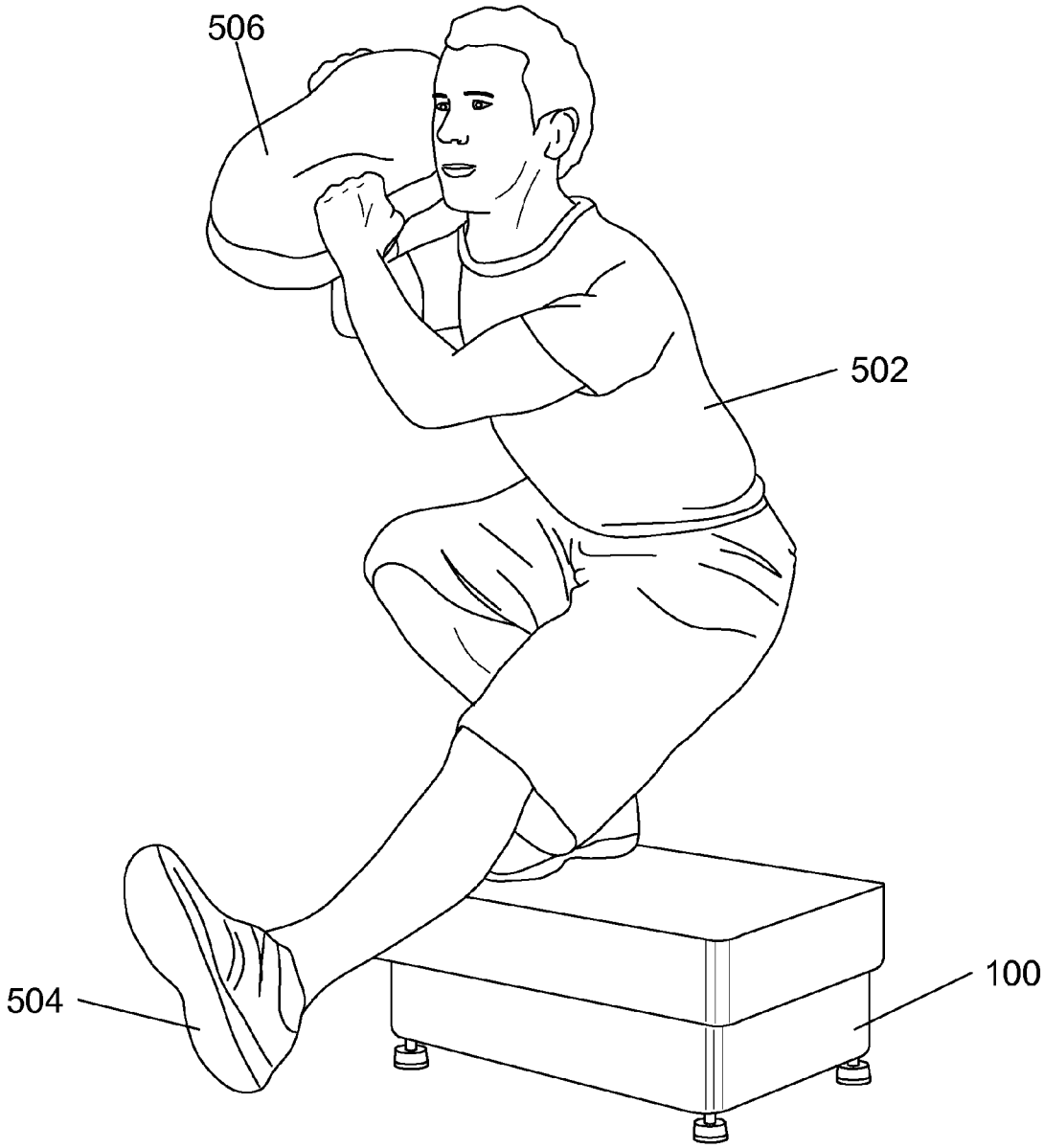


FIG. 5

VERTICAL MOVEMENT VIBRATING EXERCISE AND WELLNESS PLATFORM

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of and priority to U.S. Non-Provisional patent application Ser. No. 13/109,664 filed on May 17, 2011, which application is incorporated herein by reference in its entirety.

U.S. Non-Provisional patent application Ser. No. 13/109,664 claims the benefit of and priority to U.S. Provisional Patent Application Ser. No. 61/395,847 filed on May 17, 2010, which application is incorporated herein by reference in its entirety.

U.S. Non-Provisional patent application Ser. No. 13/109,664 is related to co-pending U.S. application Ser. No. 13/109,652, filed on May 17, 2011, and entitled, "VARIABLE RESISTANCE FITNESS CHAMBER FOR ROTATIONAL TORQUE", which application is incorporated herein by reference in its entirety.

Co-pending U.S. application Ser. No. 13/109,652, filed on May 17, 2011, and entitled, "VARIABLE RESISTANCE FITNESS CHAMBER FOR ROTATIONAL TORQUE" claimed the benefit of and priority to U.S. Provisional Patent Application Ser. No. 61/395,784 filed on May 17, 2010, which application is incorporated herein by reference in its entirety.

U.S. Non-Provisional patent application Ser. No. 13/109,664 is related to co-pending U.S. application Ser. No. 13/109,654, filed on May 17, 2011, and entitled, "BALL NEST WITH VARIABLE RESISTANCE FOR FITNESS AND WELLNESS MOVEMENT", which application is incorporated herein by reference in its entirety.

Co-pending U.S. application Ser. No. 13/109,654, filed on May 17, 2011, and entitled, "BALL NEST WITH VARIABLE RESISTANCE FOR FITNESS AND WELLNESS MOVEMENT" claimed the benefit of and priority to U.S. Provisional Patent Application Ser. No. 61/395,823 filed on May 17, 2010, which application is incorporated herein by reference in its entirety.

U.S. Non-Provisional patent application Ser. No. 13/109,664 is related to co-pending U.S. application Ser. No. 13/109,658, filed on May 17, 2011, and entitled, "VERTICAL MOVEMENT VIBRATING EXERCISE AND WELLNESS PLATFORM", which application is incorporated herein by reference in its entirety.

Co-pending U.S. application Ser. No. 13/109,658, filed on May 17, 2011, and entitled, "VERTICAL MOVEMENT VIBRATING EXERCISE AND WELLNESS PLATFORM" claimed the benefit of and priority to U.S. Provisional Patent Application Ser. No. 61/395,819 filed on May 17, 2010, which application is incorporated herein by reference in its entirety.

U.S. Non-Provisional patent application Ser. No. 13/109,664 is related to co-pending U.S. application Ser. No. 13/109,662, filed on May 17, 2011, and entitled, "VARIABLE-RESISTANCE FUNCTIONAL FITNESS BAG", which application is incorporated herein by reference in its entirety.

Co-pending U.S. application Ser. No. 13/109,662, filed on May 17, 2011, and entitled, "VARIABLE-RESISTANCE FUNCTIONAL FITNESS BAG" claimed the benefit of and priority to U.S. Provisional Patent Application Ser. No. 61/395,822 filed on May 17, 2010, which application is incorporated herein by reference in its entirety.

U.S. Non-Provisional patent application Ser. No. 13/109,664 is related to co-pending U.S. application Ser. No. 13/109,666, filed on May 17, 2011, and entitled, "TRI-CIRCULAR EXERCISE DEVICE WITH VARIABLE ROTATION RESISTANCE", which application is incorporated herein by reference in its entirety.

Co-pending U.S. application Ser. No. 13/109,666, filed on May 17, 2011, and entitled, "TRI-CIRCULAR EXERCISE DEVICE WITH VARIABLE ROTATION RESISTANCE" claimed the benefit of and priority to U.S. Provisional Patent Application Ser. No. 61/395,817 filed on May 17, 2010, which application is incorporated herein by reference in its entirety.

BACKGROUND OF THE INVENTION

The benefits of exercise are numerous and well documented. Exercise can reduce the instance and severity of many diseases. In addition, exercise can make a person feel better about themselves and provide the user with increased self-confidence and feelings of self-worth. However, many would be exercisers are intimidated by complex fitness machines and uncomfortable and unnatural motions associated with exercising. In addition, they may be reluctant to use heavy weights which can cause injury to the user.

An additional problem facing would be exercisers is that many exercises target only a single muscle or group of muscles. As such, many exercisers focus only on what they consider to be "major" muscles. These major muscles then become stronger than surrounding "support" muscles. This can lead to damage of these support muscles as they have insufficient strength to withstand the forces created by the major muscle. These injuries can be minor, causing soreness to the user, or major, causing severe damage to the user's body.

To help overcome this deficiency, various pieces of fitness machines have been created which create a vibration effect. The intention is that the user will have to work to overcome the vibration and maintain his/her balance, exercising the user's support muscles. However, these machines have a number of drawbacks. For example, the machines may create vibrations using a rotary cam which creates the vibration in a near-vertical method by pushing the pedestal up and down or using a mechanical crank style that moves in a seesaw movement (right-up, left-down).

However, these machines suffer from a number of drawbacks. In particular, many of these machines exceed ISO standards (international Organization for Standardization). Additionally, these machines can cause discomfort from excessive g-force and unpleasant feelings due to 'shaking' effect, as they do not produce true vertical movement. Further, these machines pose a danger to a user's joint and soft-tissue, because of the 'shearing' (lateral force on joints) effect. In addition, these machines produce negative effects with spasmodic and random vibration impact into the user's body.

Moreover, these machines can create a "reactive-force" entering the user's body. I.e., as the user performs the exercise movement, the resistance being used causes a reaction force into the user's body. The greater the vibration, the greater the reactive force. Reactive force can cause potential damage if the vibration is too strong for a user and the exercise movement becomes uncontrolled. Additionally, reactive force can also accumulate a "break-down" effect in the ligaments, tendons or other soft tissues in the exercising user, and their associated muscle groups. Further, reactive force is a dissipated energy, and means a less than optimal result to the exerciser, meaning the user receives a poor return on time and effort invested in the exercise.

Further, many exercise systems use unnatural movements. I.e., they involve movements that the user does not perform when not doing that particular exercise. These unnatural movements can cause injury to the user. Often, the user will not even be aware of the injury until it becomes a major injury because they do not perform that movement unless exercising.

Additionally, many of these machines have only a single setting. I.e., the machines are either on or off and the user is unable to select form various amplitudes and/or frequencies of the vibrations. This does not allow the machines to be used by individuals of different fitness levels. In particular, some individuals will be too new to exercising to use the machine while other individuals will be too advanced. Only the small group in the middle will be able to effectively use the machines.

Accordingly, there is a need in the art for an exercise system which produces vibrations that are substantially vertical. Additionally, there is a need in the art for the exercise system to allow the user to select the amplitude and/or the frequency of the vibrations. Further, there is a need in the art for the system to prevent reactive forces from entering the user's body. Moreover there is a need for the exercise system to allow the user to exercise using natural movements.

BRIEF SUMMARY OF SOME EXAMPLE EMBODIMENTS

This Summary is provided to introduce a selection of concepts in a simplified form that are further described below in the Detailed Description. This Summary is not intended to identify key features or essential characteristics of the claimed subject matter, nor is it intended to be used as an aid in determining the scope of the claimed subject matter.

One example embodiment includes a system for allowing a user to exercise. The system includes a platform, where the platform is configured to support a user during an exercise routine. The system also includes vibration means, where the vibration means moves the platform up and down during the exercise routine.

Another example embodiment includes a system for allowing a user to exercise. The system includes a base plate. The base plate includes one or more feet for supporting the base plate. The system also includes a motor. The motor is attached to the base plate and is configured to convert electrical energy to rotational motion. The system further includes a drive shaft, where the drive shaft is rotated by the motor and a linkage system. The linkage system is connected to the drive shaft and is configured to convert the rotational motion of the drive shaft to reciprocating vertical linear motion. The system additionally includes a platform. The platform is attached to the linkage system and is configured to support a user during an exercise routine. The system also includes a control module. The control module controls the speed of the motor. The system further includes a display, where the display is configured to show the current settings to a user.

Another example embodiment includes a system for allowing a user to exercise. The system includes a base plate. The base plate includes one or more feet for supporting the base plate. The system also includes a housing, where the housing encloses at least a portion of the system, and a motor. The motor is attached to the base plate and is configured to convert electrical energy to rotational motion. The system further includes a drive shaft, where the drive shaft is rotated by the motor. The system additionally includes a bearing system, where the bearing system is configured to support the drive shaft relative to the base plate, and a linkage system. The linkage system is attached to the base plate, is connected to the drive shaft and is configured to convert the rotational motion of the drive shaft to reciprocating linear motion. The system also includes a platform. The platform is attached to the linkage system, is configured to support a user during an exercise routine and includes at least a portion that is substantially transparent. The system further includes a control module. The control module controls the speed of the motor and the amplitude of the reciprocating linear motions. The speed of the motor controls the frequency of the reciprocating linear motion. The system additionally includes a control panel, where the control panel allows a user to change one or more settings controlled by the control module. The system also includes a display, where the display is configured to show the current settings to a user.

These and other objects and features of the present invention will become more fully apparent from the following description and appended claims, or may be learned by the practice of the invention as set forth hereinafter.

BRIEF DESCRIPTION OF THE DRAWINGS

To further clarify various aspects of some example embodiments of the present invention, a more particular description of the invention will be rendered by reference to specific embodiments thereof which are illustrated in the appended drawings. It is appreciated that these drawings depict only illustrated embodiments of the invention and are therefore not to be considered limiting of its scope. The invention will be described and explained with additional specificity and detail through the use of the accompanying drawings in which:

FIG. **1** illustrates an example of an exercise system;

FIG. **2** illustrates a cross-section of the exercise system;

FIG. **3**A illustrates an example of a linkage system in a first position;

FIG. **3**B shows the linkage system in a second position;

FIG. **4** illustrates a bottom perspective view of an example of a platform; and

FIG. **5** illustrates an example of a user using the exercise system.

DETAILED DESCRIPTION OF SOME EXAMPLE EMBODIMENTS

Reference will now be made to the figures wherein like structures will be provided with like reference designations. It is understood that the figures are diagrammatic and schematic representations of some embodiments of the invention, and are not limiting of the present invention, nor are they necessarily drawn to scale.

FIG. **1** illustrates an example of an exercise system **100**. In at least one implementation, the exercise system **100** can be used to increase the physical fitness of a user. In particular, the exercise system **100** can allow the user to perform a variety of movements with varying amplitude and frequency of vertical vibrations. The vibrations can be substantially free from lateral movement which can reduce or eliminate the reactive force transmitted to the user's body. I.e., the exercise system **100** can increase the user's physical fitness with a reduced chance of injury.

FIG. **1** shows that the exercise system **100** can include a platform **102**. In at least one implementation, the platform **102** can move back and forth vertically at an amplitude and frequency to be determined by the user. As the platform **102** vibrates, the user must use his/her muscles to maintain his/her

balance. I.e., the user is constrained to react by contracting and relaxing his/her muscles, thus exercising those muscles.

FIG. **1** also shows that the exercise system **100** can include a housing **104**. In at least one implementation, the housing **104** can surround and protect the other elements of the exercise system **100**. In particular, the housing **104** can be configured to ensure that the other elements of the exercise system **100** are in the proper position relative to one another.

FIG. **1** further shows that the housing **104** can include a ventilation window **106**. In at least one implementation, the ventilation window **106** can allow air exchange between the interior and the exterior of the housing **104**. In particular, as the electrical elements of the exercise system **100** are in use, they will produce heat as a byproduct of the electrical resistance. The heat can be dissipated by the air exchange through the ventilation window **106**. The ventilation window **106** can include a series or holes or openings through the housing **104** material. Additionally or alternatively, the ventilation window **106** can include a fan or other device for increasing the rate of air flow through the ventilation window **106**.

FIG. **1** additionally shows that the exercise system **100** can include a control **108**. In at least one implementation, the control **108** can allow the user to modify parameters of the exercise routine. For example, the control **108** can allow the user to adjust the amplitude or the frequency of the movement of the platform **102**. Additionally or alternatively, the control **108** can allow the user to set an exercise timer or control lighting options of the exercise system **100**, as described below.

One of skill in the art will appreciate that the control **108** can include any desired user interface. For example, the control **108** can include knobs or switches which allow the user to adjust the settings. Additionally or alternatively, the control **108** can include a display allowing the user to see the current settings and or change the settings, such as a touch screen display. The control **108** can allow the user direct control over the settings and/or can include pre-programmed routines which controls the settings. The pre-programmed routines can be either dynamic or static. I.e., the routines can set the control **108** settings, which remain unchanged throughout the routine, or can vary the control **108** settings during the routine to exercise different muscle groups and/or at different intensities. Additionally or alternatively, the control **108** can include a remote control which allows a user to remotely change the settings of the exercise system **100**.

FIG. **1** also shows that the exercise system **100** can include a performance window **110**. In at least one implementation, the performance window **110** can allow the user to see the interior of the housing **104**. In particular, the performance window **110** can allow the user to see the moving elements of the exercise system **100**. The performance window **110** can include a material such as glass, plastic or other polymers, which are of sufficient strength to support the user during exercise. Additionally or alternatively, the performance window **110** can be of a desired shape or size to portray a logo to the user. For example, the shape of the performance window **110** can be a pineapple or other shape.

Additionally or alternatively, the performance window **110** can allow the user to see a display. For example, the performance window **110** can allow a user to see a display which shows statistics about the user's workout, such as current settings, time remaining in the exercise routine, time spent working out, estimated calories burned or the like, as described below. In particular, the performance window **110** can protect the display while allowing the user to access the displayed information.

FIG. **1** further shows that the exercise system **100** can include one or more feet **112**. In at least one implementation, the one or more feet **112** can support the weight of the exercise system **100** and the user. Additionally or alternatively, the one or more feet **112** can prevent the exercise system **100** from moving along the surface on which the exercise system **100** is resting. For example, the one or more feet **112** can include rubber or other non-slip materials which are intended to prevent or restrict movement of the exercise system **100** during an exercise routine or as a user steps on to or off of the exercise system **100**.

One of skill in the art will appreciate that the exercise system **100** can include other elements for supporting the exercise system **100** and/or allowing the user to relocate the exercise system **100**. For example, the exercise system **100** can include one or more wheels, allowing the user to more easily move the exercise system **100**. Additionally or alternatively, the exercise system **100** can include one or more handles, allowing the user to lift some or all of the weight of the exercise system **100**.

In at least one implementation, the exercise bag **100** can be configured to electronically communicate with an external device. For example, the exercise bag **100** can be connected to a computer, a smart phone, a gaming console or any other electronic device. The electronic device can monitor the user's movements and/or the effectiveness of the user's exercise routine. For example, the electronic device can measure the user's heart rate or provide feedback for the user's exercise routine. E.g., the electronic device can monitor the motion of the various parts of the exercise bag **100** and inform the user regarding motion that is overextended or underextended or regarding motion that includes starts and stops or interruptions to the user's exercise routine. Additionally or alternatively, the electronic device can provide information over numerous exercise sessions or routines. For example, the electronic device can show the user's progress as the user increases in strength and health.

The exercise bag **100** can connect to the external device using any communications means. For example, the exercise bag **100** can be physically connected or can be wirelessly connected to the external device. Additionally or alternatively, the exercise bag **100** can connect to the external device using a network. The network exemplarily includes the Internet, including a global internetwork formed by logical and physical connections between multiple wide area networks and/or local area networks and can optionally include the World Wide Web ("Web"), including a system of interlinked hypertext documents accessed via the Internet. Alternately or additionally, the network includes one or more cellular RF networks and/or one or more wired and/or wireless networks such as, but not limited to, 802.xx networks, Bluetooth access points, wireless access points, IP-based networks, or the like. For example, the network can include cloud based networking and computing. The network can also include servers that enable one type of network to interface with another type of network.

FIG. **2** illustrates a cross-section of the exercise system **100**. In at least one implementation, the exercise system **100** can produce the desired vertical vibrations. In particular, the exercise system **100** can allow the user to control the amplitude and the frequency of the vibrations of produced. This can, in turn, allow the exercise system **100** to be used by users of different fitness levels.

FIG. **2** shows that the exercise system **100** can include a base plate **202**. In at least one implementation, the base plate **202** can include one or more grooves or indentations for receiving other elements of the exercise system **100**. In par-

ticular, the base plate **202** can be of a proper size and shape to receive the other elements of the exercise system **100**. Additionally or alternatively, the base plate **202** can be configured to receive external elements such as feet **112** or attach to external devices.

FIG. **2** also shows that the exercise system **100** can include a control module **204**. In at least one implementation, the control module **204** can control the operation of the exercise system **100**. For example, the control module **204** can receive the setting input to the control **108** by the user. The control module **204** can then modify the operation of the elements to produce the proper motion. Additionally or alternatively, the control module **204** can adjust the settings of the exercise system **100** to produce a preprogrammed exercise routine.

FIG. **2** further shows that the exercise system **100** can include a motor **206**. In at least one implementation, the motor **206** can convert electrical power to motion. In particular, the motor **206** can produce a rotating motion. The rotating motion can then be converted to vertical motion of the platform **102**, as described below.

FIG. **2** additionally shows that the exercise system **100** can include a drive shaft **208**. In at least one implementation, the drive shaft **208** can be rotated by the motor **206**. In particular, the drive shaft **208** can be used to convert the rotational energy produced by the motor **206** to vertical motion of the platform **102**. The drive shaft **28** can include an enlarged section for connecting the drive shaft **208** to the motor **206**, as described below.

FIG. **2** also shows that the exercise system **100** can include a belt **210**. In at least one implementation, the belt **210** can connect the rotation of the motor **206** to rotation of the drive shaft **208**. I.e., the belt **210** can be moved by the motor **206**. The belt can then interact with the drive shaft **208**, rotating the drive shaft **208**. In at least one implementation, the belt **210** can slip if the forces involved become too large. I.e., if the force needed to move the platform become too large, the interaction between the belt **210** and the motor **206** and/or the belt **210** and the drive shaft **208** can slip, preventing motion of the driveshaft **208** which would damage the exercise system **100** if allowed.

The belt **210** can allow the rotational speed of the drive shaft **208** to vary from the rotational speed of the motor **206**. In particular, the linear speed of the circumference of the motor **206**, the enlarged section of the drive shaft **208** and the belt **210** can all be the same but the rotations per minute (rpm) of the motor **206** can vary with any ratio to the rpms of the drive shaft **208**. One of skill in the art will appreciate that any desired connection between the drive shaft **208** and the motor **206** can be used. For example, the connection can include a direct connection, gears or the like.

FIG. **2** further shows that the exercise system **100** can include a bearing system **212**. In at least one implementation, the bearing system **212** can ensure uniform rotation of the drive shaft **208**. In particular, the vertical motion of the platform and the operation of the motor **206** and imperfections in the drive shaft **208** can all cause vibrations within the exercise system **100**. The vibrations can prevent uniform rotation of the drive shaft **208**. The bearing system **212** can prevent the vibrations from disrupting the rotation of the drive shaft **208**. Additionally or alternatively, the bearing system **212** can ensure that the drive shaft **208** remains a fixed distance from the base plate **202**.

FIG. **2** additionally shows that the exercise system **100** can include a linkage system **214**. In at least one implementation, the linkage system **214** can produce the desired vertical motion. In particular, the linkage system **214** can convert rotation of the drive shaft **208** to vertical motion of the platform **102**, as described below.

FIG. **2** also shows that the exercise system **100** can include a performance illuminator **216**. In at least one implementation, the performance illuminator **216** can produce a light pattern to inspire a user. The light pattern can include any selected color, and any selected pattern chosen by the user. For example, the performance illuminator **216** can 'pulse' with light in synchrony with the vertical movement created by the exercise system **100**. Additionally or alternatively, the performance illuminator **216** can provide visual indicators to the user regarding the status of his/her workout.

FIG. **2** further shows that the exercise system **100** can include a display **218**. In at least one implementation, the display **218** can provide the user with information regarding his/her exercise routine. For example, the display **218** can show statistics about the user's workout, such as current settings, time remaining in the exercise routine, time spent working out, estimated calories burned or the like.

FIGS. **3**A and **3**B illustrate an example of a linkage system **214**. FIG. **3**A illustrates an example of the linkage system **214** in a first position; and FIG. **3**B shows the linkage system **214** in a second position. In at least one implementation, the linkage system **214** can convert rotational motion to vertical motion. I.e., the linkage system **214** can produce vertical vibrations of the frequency and amplitude desired by the user.

FIGS. **3**A and **3**B show that the linkage system **214** can include a shaft attachment **302**. In at least one implementation, the shaft attachment **302** can be connected to a drive shaft, such as the drive shaft **208** of FIG. **2**. In particular, the shaft attachment **302** can be rotated by an attached drive shaft.

FIGS. **3**A and **3**B also show that the linkage system **214** can include a first rod **304***a* and a second rod **304***b* (collectively "rods **304**"). In at least one implementation, the rods **304** can provide the necessary leverage to lift and lower the platform, producing the required vertical vibrations. In particular, as the shaft attachment **302** rotates the movement can be transmitted to the rods **304**.

FIGS. **3***a* and **3**B further show that the linkage system **214** can include a first support **306***a* and a second support **306***b* (collectively "supports **306**"). In at least one implementation, the first support **306***a* and the second support **306***b* support the first rod **304***a* and the second rod **304***b* respectively. In particular, the connection between the supports **306** and the rods **304** can allow the rods **304** to rotate relative to the supports **306**. The position of the supports **306** can be fixed within an exercise system, such that any force supplied on the rods **304** by the shaft attachment **302** can tend to rotate the rods **304** around the attachment point between the rods **304** and the supports **306**. I.e., the rods "see-saw" about the attachment point between the rods **304** and the supports **306**.

FIGS. **3**A and **3**B additionally show that the linkage system **214** can include a connector **308**. In at least one implementation, the connector **308** can connect the first rod **302***a* to the second rod **302***b*. The attachment between the connector **308** and the first rod **302***a* can allow the connector **308** to rotate relative to the first rod **302***a*. Likewise, the attachment between the connector **308** and the second rod **302***b* can allow the connector **308** to rotate relative to the first rod **302***b*. This can allow the first rod **302***a* and the second rod **302***b* to move both sides of the platform in unison with one another.

FIGS. **3**A and **3**B also show that the linkage system **214** can include a first platform support **310***a* and a second platform support **310***b* (collectively "platform supports **310**"). In at least one implementation, the platform supports **310** can connect to a platform. In particular, the platform supports **310** can

move up and down, creating vertical movement in the connected platform. The attachment between the platform supports **310** and the rods **304** can allow the platform supports **310** to rotate relative to the rods **304**. This can allow the attached platform to remain in a substantially horizontal position during movement, as described below.

FIG. **3**A shows that when the shaft attachment **302** is in its lowest position the attachment point between the first rod **304***a* and the shaft attachment **302** is in a raised position. In turn, the first rod **304***a* has rotated about the attachment point between the first rod **304***a* and the first support **306***a*. Consequently, the attachment point between the first rod **304***a* and the first platform support **310***a* has been lowered, moving the platform to a lower position. Likewise, as the connector **308** is raised it raises the attachment point between the connector **308** and the second rod **302***b*. As a result, the second rod **304***b* has rotated about the attachment point between the second rod **304***b* and the second support **306***b*. Consequently, the attachment point between the second rod **304***b* and the second platform support **310***b* has been lowered, moving the platform to a lower position.

In contrast, FIG. **3**B shows that when the shaft attachment **302** is in its highest position the attachment point between the first rod **304***a* and the shaft attachment **302** is in a lowered position. One of skill in the art will appreciate that the shaft attachment **302** has been rotated about a point that is near, but not concurrent with the attachment point between the shaft attachment **302** and the first rod **304***a* relative to FIG. **3**A. In turn, the first rod **304***a* has rotated about the attachment point between the first rod **304***a* and the first support **306***a*. Consequently, the attachment point between the first rod **304***a* and the first platform support **310***a* has been raised, moving the platform to a higher position. Likewise, as the connector **308** is lowered it lowers the attachment point between the connector **308** and the second rod **302***b*. As a result, the second rod **304***b* has rotated about the attachment point between the second rod **304***b* and the second support **306***b*. Consequently, the attachment point between the second rod **304***b* and the second platform support **310***b* has been raised, moving the platform to a higher position.

FIG. **4** illustrates a bottom perspective view of an example of a platform **102**. In at least one implementation, the platform **102** can support a user during an exercise routine. I.e., the platform **102** can support the weight of the user. The platform **102** can be moved in a reciprocal manner, producing vertical vibrations, as desired by a user.

FIG. **4** shows that the platform **102** an be attached to an external device **402**. For example, the external device **402** can include a portable plate. An example of a portable plate is disclosed in co-pending U.S. application Ser. No. 13/109,654, filed on May 17, 2011, and entitled, "BALL NEST WITH VARIABLE RESISTANCE FOR FITNESS AND WELLNESS MOVEMENT", previously referenced.

One of skill in the art will appreciate that attaching the platform **102** to an external device **402** can make for a more effective exercise routine than can be provided by either the platform **102** or the external device **402** alone. In particular, the movement of the platform **102** can mean that the user is constrained to balance the vertical movement of the platform **102** as well as perform the exercise routine of the external device **402**.

FIG. **4** shows that the external device can be attached using a connector **404**. In at least one implementation, the connector **404** can include a portion of the external device **402** which is configured to prevent the external device **402** from moving laterally on the platform **102**. Additionally or alternatively, the connector **404** can include a snap, blot, latch or any other connector.

FIG. **5** illustrates an example of a user **502** using the exercise system **100**. In at least one implementation, the user **502** can use the exercise system **100** to tone or strengthen his/her muscles. In particular, the exercise system **100** recreates natural movements of the human body, allowing the user **502** to exercise with little or no detrimental impact to the body of the user **502**. I.e., the exercise system allows the user **502** to exercise using natural movements and low impact resistance.

FIG. **5** shows that the user **502** can stand on the exercise system **100**. In at least one implementation, the user **502** is must balance himself/herself on the platform **102**. However, the platform is moving up and down. Therefore, a portion of the body of the user **502** which is held out, such as the user's foot **504** is more difficult to hold in position that on a stable surface, such as a floor.

FIG. **5** also shows that the user **502** can use a supplemental exercise device **506**, such as a variable-resistance functional fitness bag. An example of a variable-resistance functional fitness bag is disclosed in co-pending U.S. application Ser. No. 13/109,662, filed on May 17, 2011, and entitled, "VARIABLE-RESISTANCE FUNCTIONAL FITNESS BAG", previously referenced. Additionally or alternatively, the user **502** can use other supplemental exercise devices **506**, such as weights or other exercise systems while using the exercise system **100**.

Additionally or alternatively, the user **502** can use a supplemental exercise device, such as the exercise system using a variable resistance fitness chamber. An example of a variable resistance fitness chamber is disclosed in co-pending U.S. application Ser. No. 13/109,652, filed on May 17, 2011, and entitled, "VARIABLE RESISTANCE FITNESS CHAMBER FOR ROTATIONAL TORQUE", previously referenced. In particular, the user **502** can balance himself/herself on the platform **102** while using the exercise system using a variable resistance fitness chamber. However, the platform **102** is moving up and down. Therefore, the user **502** must balance himself/herself while directing the movement of the rings, making the exercise routine more difficult and, consequently, more beneficial to the user.

Additionally or alternatively, the user **502** can use a supplemental exercise device, such as the exercise system using a ball nest. An example of a ball nest is disclosed in co-pending U.S. application Ser. No. 13/109,654, filed on May 17, 2011, and entitled, "BALL NEST WITH VARIABLE RESISTANCE FOR FITNESS AND WELLNESS MOVEMENT", previously referenced. In particular, the user **502** can balance himself/herself on the platform **102** while using the exercise system using a ball nest. However, the platform **102** is moving up and down. Therefore, the user **502** must balance himself/herself while directing the movement of the rings, making the exercise routine more difficult and, consequently, more beneficial to the user.

Additionally or alternatively, the user **502** can use a supplemental exercise device, such as the exercise system using a variable resistance pulley. An example of a variable resistance pulley is disclosed in co-pending U.S. application Ser. No. 13/109,664, filed on May 17, 2011, and entitled, "VARIABLE RESISTANCE PULLEY FOR BODY-WEIGHT ROTATION EXERCISE", previously referenced. In particular, the user **502** can balance himself/herself on the platform **102** while using the exercise system using a variable resistance pulley. However, the platform **102** is moving up and down. Therefore, the user **502** must balance himself/herself

while directing the movement of the rings, making the exercise routine more difficult and, consequently, more beneficial to the user.

Additionally or alternatively, the user **502** can use a supplemental exercise device, such as a tri-circular exercise device. An example of a tri-circular exercise device is disclosed in co-pending U.S. application Ser. No. 13/109,666, filed on May 17, 2011, and entitled, "TRI-CIRCULAR EXERCISE DEVICE WITH VARIABLE ROTATION RESISTANCE", previously referenced. In particular, the user **502** can balance himself/herself on the secondary plates or the main plate. However, the secondary plate and/or the main plate are rotating. Therefore, the user **502** must balance himself/herself while directing the rotation of the secondary plates and/or the main plate, making the exercise routine more difficult and, consequently, more beneficial to the user.

Additionally or alternatively, the user **502** can use other supplemental exercise devices, such as weights or other exercise systems, while using the exercise system **100**.

The present invention may be embodied in other specific forms without departing from its spirit or essential characteristics. The described embodiments are to be considered in all respects only as illustrative and not restrictive. The scope of the invention is, therefore, indicated by the appended claims rather than by the foregoing description. All changes which come within the meaning and range of equivalency of the claims are to be embraced within their scope.

What is claimed is:

1. A system for allowing a user to exercise, the system comprising:
- a platform, wherein the platform:
  - is configured to support a user during an exercise routine; and
  - includes a window wherein the window is substantially transparent; and
- vibration means, wherein the vibration means moves the platform up and down during the exercise routine.

2. The system of claim **1**, wherein the window is located near the center of the platform.

3. The system of claim **1**, wherein the window is shaped as a logo.

4. A system for allowing a user to exercise, the system comprising:
- a base plate, wherein the base plate includes:
  - one or more feet for supporting the base plate;
- a motor, wherein the motor is:
  - attached to the base plate; and
  - configured to convert electrical energy to rotational motion;
- a drive shaft, wherein the drive shaft is rotated by the motor;
- a linkage system, wherein the linkage system is:
  - connected to the drive shaft; and
  - configured to convert the rotational motion of the drive shaft to reciprocating vertical linear motion;
- a platform, wherein the platform is:
  - attached to the linkage system; and
  - configured to support a user during an exercise routine;
- a control module, wherein the control module controls the speed of the motor; and
- a display, wherein the display is configured to show the current settings to a user.

5. The system of claim **4**, wherein the linkage system includes a shaft connector, wherein the shaft connector:
- is attached to the drive shaft; and
- rotates relative to the linkage system.

6. The system of claim **5**, wherein the linkage system includes:
- a rod, wherein a portion of the rod is moved up and down by the shaft connector.

7. The system of claim **6**, wherein the linkage system further includes:
- a support, wherein the support is attached to the base plate; and
- is attached to the rod, wherein the rod is configured to rotate about an attachment point relative to the support.

8. The system of claim **7**, wherein the linkage system further includes:
- a platform support, wherein the platform support is:
  - attached to the rod; and
  - attached to the platform.

9. The system of claim **8**, wherein:
- the shaft connector is attached to a first portion of the rod on a first side of the attachment point between the support and the rod; and
- the platform support is attached to a second portion of the rod on a second side of the attachment point between the support and the rod;
- movement of the first portion in a first direction by the shaft connector results in movement of the second portion in a second direction; and
- the first direction is opposite the second direction.

10. The system of claim **4** further comprising a bearing system, wherein the bearing system is configured to support the drive shaft relative to the base plate.

11. The system of claim **4** further comprising a remote control, wherein the remote control allows a user to change one or more settings controlled by the control module.

12. The system of claim **4** further comprising one or more wheels, wherein the one or more wheels are configured to support at least a portion of the exercise system when being moved by a user.

13. A system for allowing a user to exercise, the system comprising:
- a base plate, wherein the base plate includes:
  - one or more feet for supporting the base plate;
- a housing, wherein the housing encloses at least a portion of the system;
- a motor, wherein the motor is:
  - attached to the base plate; and
  - configured to convert electrical energy to rotational motion;
- a drive shaft, wherein the drive shaft is rotated by the motor;
- a bearing system, wherein the bearing system is configured to support the drive shaft relative to the base plate;
- a linkage system, wherein the linkage system is:
  - attached to the base plate;
  - connected to the drive shaft; and
  - configured to convert the rotational motion of the drive shaft to reciprocating linear motion;
- a platform, wherein the platform:
  - is attached to the linkage system;
  - is configured to support a user during an exercise routine; and
  - includes at least a portion that is substantially transparent;
- a control module, wherein the control module controls:
  - the speed of the motor; and
  - the amplitude of the reciprocating linear motions;
- wherein the speed of the motor controls the frequency of the reciprocating linear motion;

a control panel, wherein the control panel allows a user to change one or more settings controlled by the control module; and

a display, wherein the display is configured to show the current settings to a user.

14. The system of claim **13** further comprising a performance illuminator, wherein the performance illuminator is configured to turn on and off a light with a frequency that matches the frequency of the reciprocating linear motion.

15. The system of claim **13**, wherein the display is located within the housing.

16. The system of claim **15**, wherein the display is visible through the portion of the platform that is substantially transparent.

17. The system of claim **13**, wherein the position of the one or more feet are adjustable relative to the base plate.

18. The system of claim **17**, wherein the one or more feet are attached to the base plate using a threaded connector.

19. The system of claim **13**, wherein the threaded connector includes one of:

a screw; or

a bolt.

* * * * *